عنوان مقاله:

DDA/TDB liposomes containing soluble Leishmania major antigens induced a mixed Th1/Th2 immune response in BALB/c mice

محل انتشار:

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خلاصه مقاله:

Objective(s): Leishmaniasis is a complex parasitic disease that represents a major public health problem. Despite numerous attempts over the past decades, yet there is no effective vaccine against human leishmaniasis probably due to the lack of suitable adjuvants. In this study, a first generation liposomal-based Leishmania vaccine was developed using soluble Leishmania major antigens (SLA) and á, Ü-trehalose6, 6 - dibehenat (TDB) as an immunostimulatory adjuvant. In this liposome structure, the cationic lipid Dimethyldioctadecylammonium (DDA) provides intrinsic adjuvant activity and cholesterol was added as a membrane stabilizer. Liposomes containing SLA were prepared. Materials and Methods: BALB/c mice were subcutaneously (sc) immunized with Lip (DDA/TDB/CHOL)-SLA+, Lip (DDA/TDB)-SLA+, Lip (DDA)-SLA+, Lip (DDA/CHOL)-SLA+, SLA or Tris-HCl buffer. Immunization was done every two weeks for three weeks. The immunized mice were then challenged sc in the left footpad with 1×106 stationary phase L. major promastigotes (50 ìl), at 2 weeks after last booster injection.Results: mice immunized with any of the liposomal formulations containing SLA (Lip-SLA+), substantially increased footpad swelling and parasite loads of foot and spleen with no significant difference compared to Tris-HCl buffer or SLA alone. Lip-SLA+ formulations induced a mixed Th1/Th2 immune response characterized by IFN-ã and IL-4 production as well as high levels of IgG1 anti-Leishmania antibody. Conclusion: immunization with liposomes containing DDA and/or TDB in combination with SLA induces a mixed Th1/Th2 immune response and is not an appropriate strategy for preferential induction of a Th1 response and protection against leishmaniasis.

کلمات کلیدی:

DDA, Liposome, Leishmaniasis, TDB, SLA, Vaccine

لینک ثابت مقاله در پایگاه سیویلیکا: